SEMS User Manual

Version 1.0.0

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1. Instructions

1.1 Software introduction

Smart Energy Management System (**SEMS**) is a Brower/Server mode and commercial-grade enterprise application software system. Alarm analysis module, display module and turn on/off light management are the core of our software system, and our system adopts straightforward graphic structure, real-time accurate analysis. It's easy to operate and control. And it combines communications, information management and electrical configuration control. SEMS can provide advanced energy management.

1.2 Applicable scope

✧ Urban public lighting management and monitoring; including lamps, tunnel lights, landscape light and decorate light monitoring and management.

✧ District/building/office/factory, etc. lighting monitoring and management.

✧ Intelligently manage and monitor electrical equipment.

2. Software install and uninstall

2.1 Install environment requirement

2.1.1 Server-side

SEMS supports Mircrosoft Windows 2000/xp/server2003, 2008/Vista, Win 7, and 32-bit and 64-bit operation system. Also supports different version linux system.

Memory: 1G or more; 2G recommend;

Hard discs: 300M or more

2.1.2 User-side

The browser need to support flash, for example: IE 6+

2.2 Installation

When you get the setup file:Fig2-1, run the software, you will see Fig2-2, the introduction dialog as Fig 2-2.

Fig1-1 Setup file

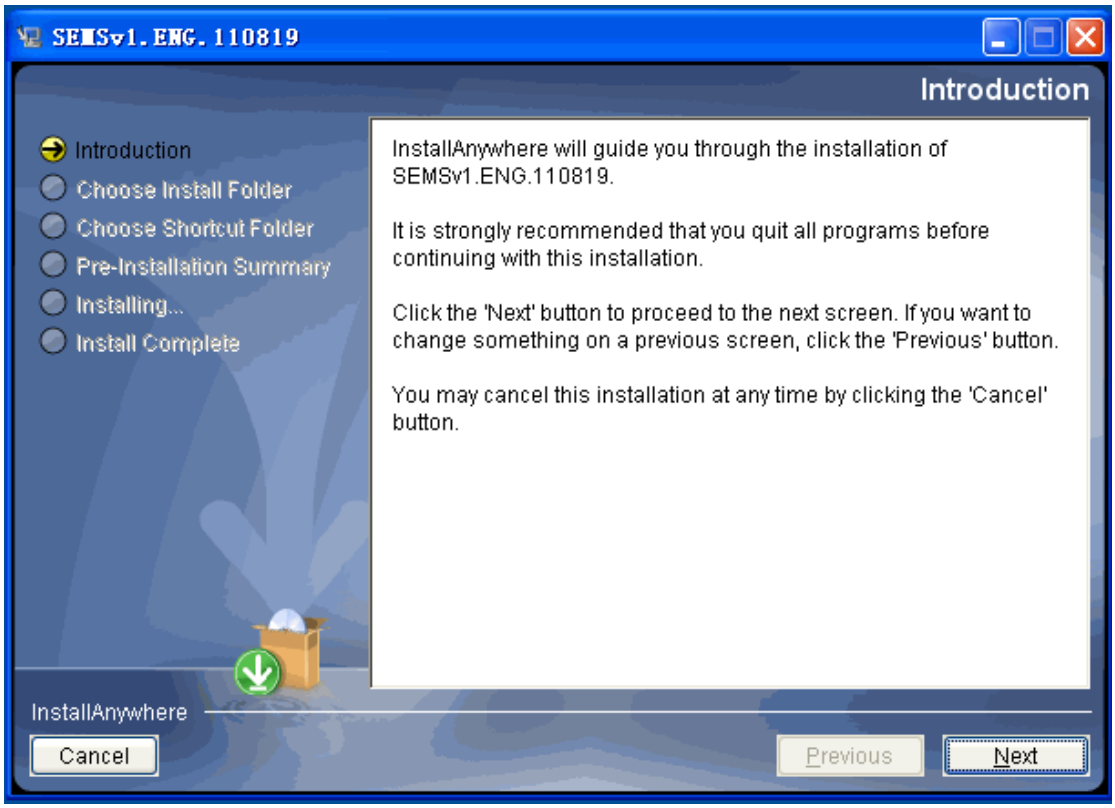

SEMSv1.ENG.110819
Introduction
Introduction
Choose Install Folder
Choose Shortcut Folder
Pre-Installation Summary
Installing...
Install Complete
InstallAnywhere will guide you through the installation of SEMSv1.ENG.110819.
It is strongly recommended that you quit all programs before continuing with this installation.
Click the 'Next' button to proceed to the next screen. If you want to change something on a previous screen, click the 'Previous' button.
You may cancel this installation at any time by clicking the 'Cancel' button.
InstallAnywhere
Cancel
Previous
Next

Fig2-2 Introduction

Click “Next”, choose the install folder, Fig 2-3

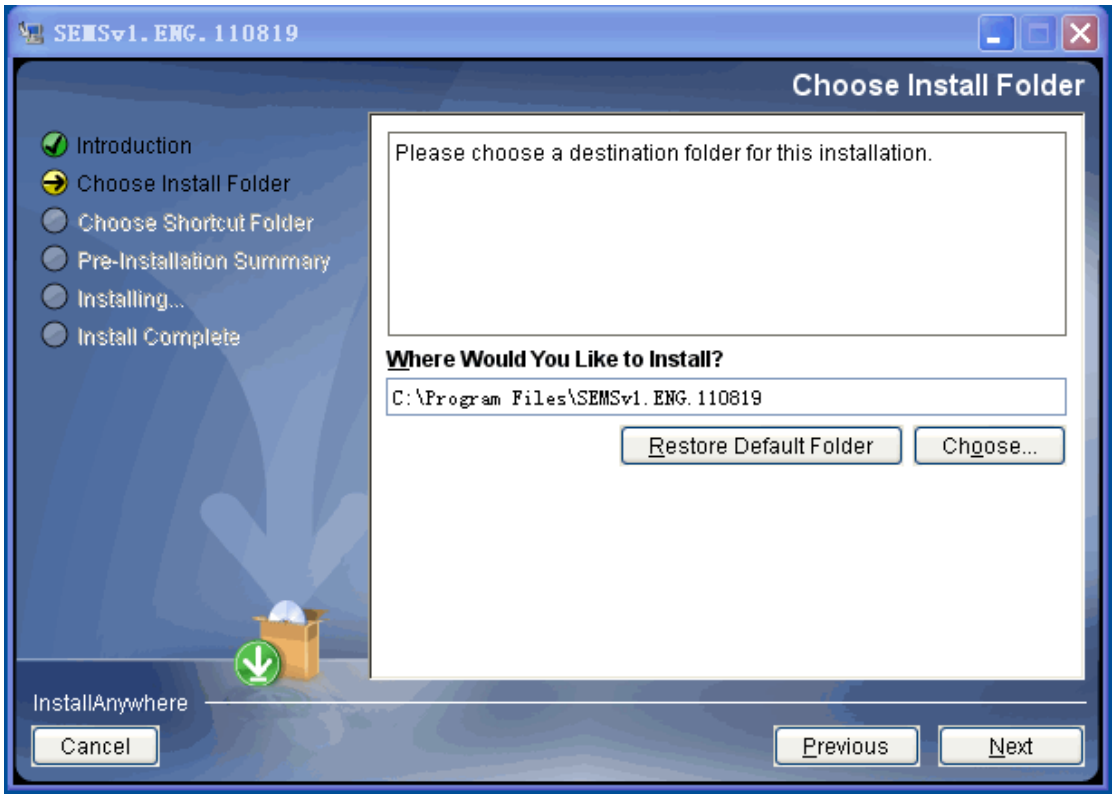


Fig 2-3 Choose install folder

Next, choose shortcut folder: Fig 2-4:

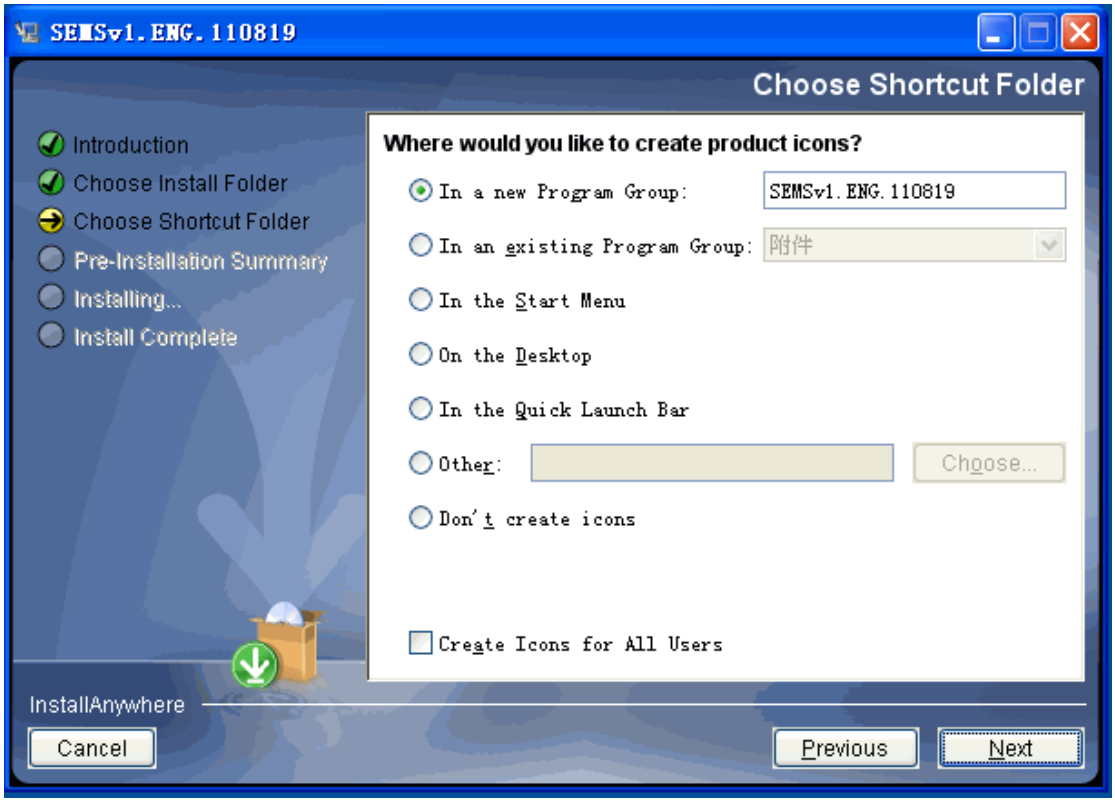


Fig 2-4 Choose shortcut folder

Click "Next", you will see some installation details, (My OS is simplified Chinese version), as Fig2-5.

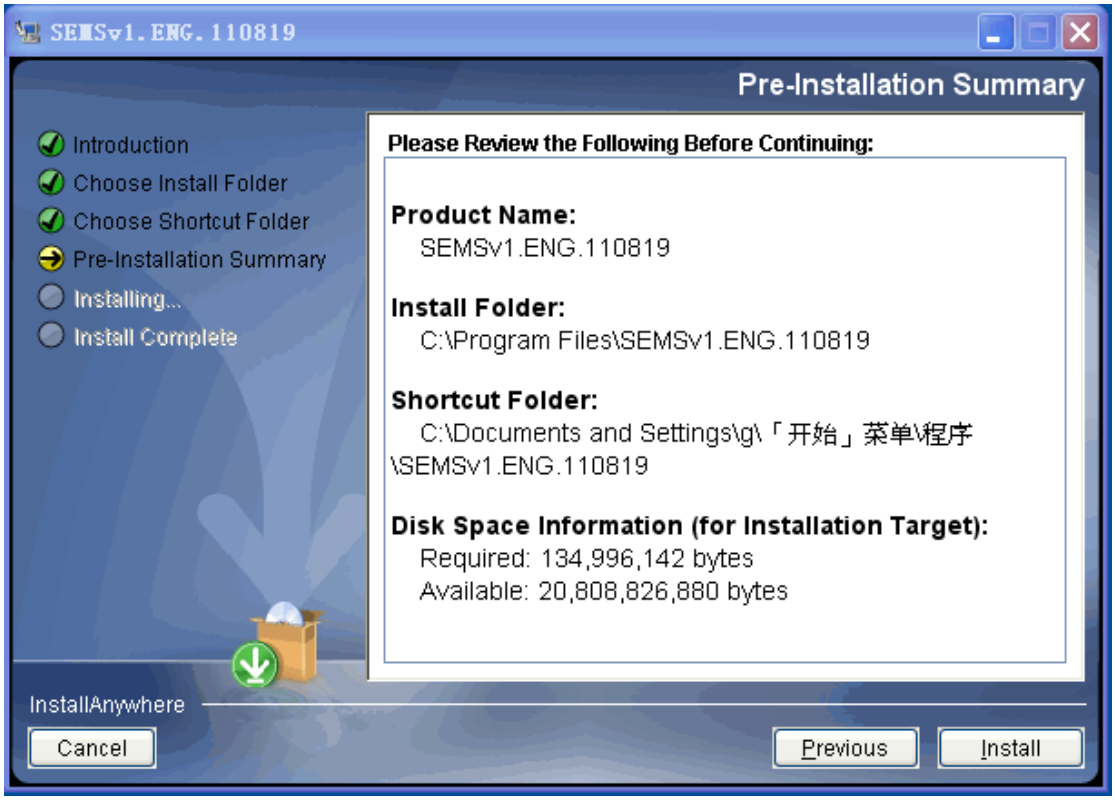


Fig 2-5 Pre-installation summary

Click the “install” button, enter the installation phase, about 10 seconds later, you will see the installation finished. Fig 2-6

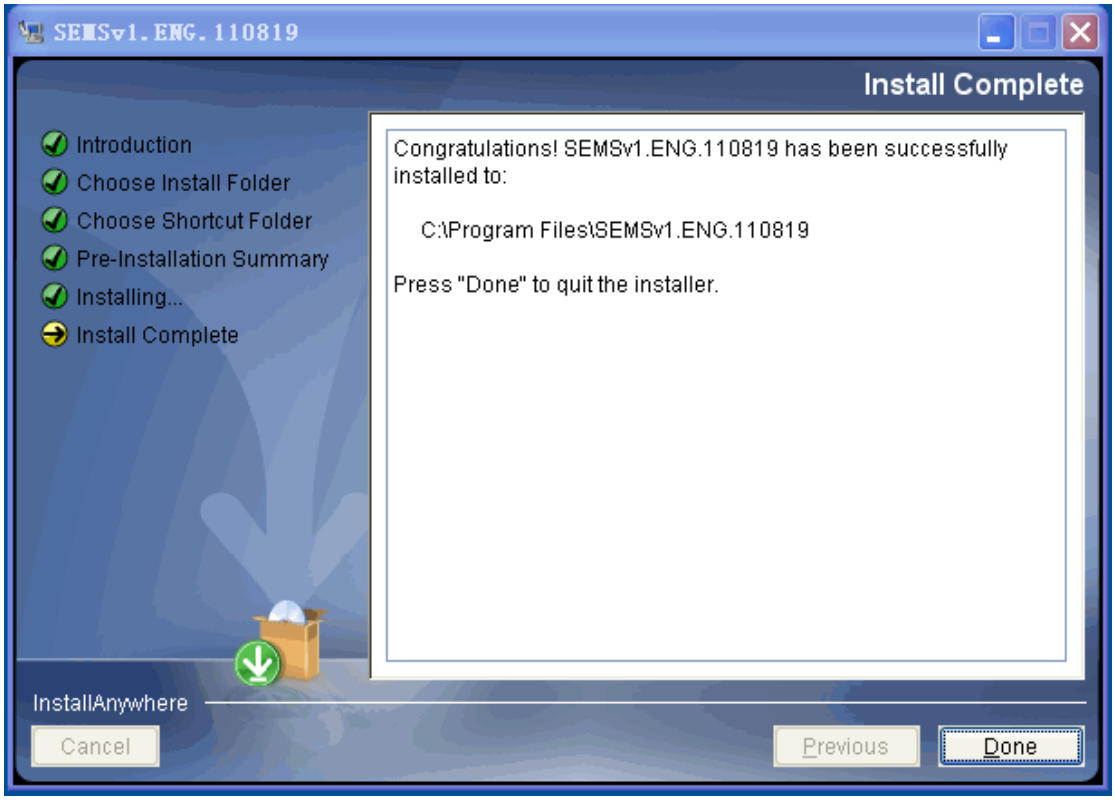


Fig 2-6 Installing

When above phase is completed, there is a shortcut icon on your desktop, as

Fig2-7.

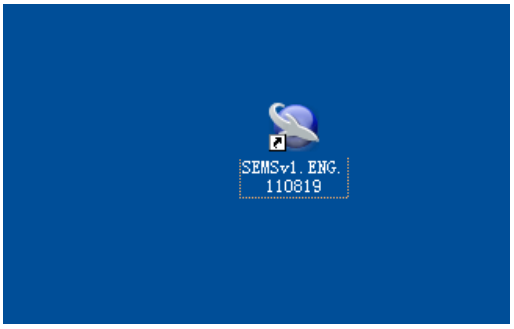
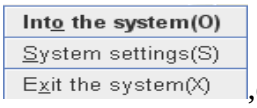


Fig 2-7 Shortcut icon

2.3 Software start and exit

There are two ways to start the software:

1. Double-click the shortcut icon on the desktop;
2. Enter windows “Start”-“All programs”, Find the SEMS and click it;

When the software is started, a icon will appear on the windows‘s tray, as .right-click the icon , Three selection appear, as 

,click “Into the system(O)”, and “Exit the system(S)”, you will quit the system, the “System settings(S)”, you can know some setting of server. Also you can change depending on your configuration.

2.4 Uninstall software

If you want to uninstall the software, some steps as the following:

1. Exit the system;
2. In windows :“Start”-“All programs”, find the SEMS, click “Uninstall”, as Fig2-8

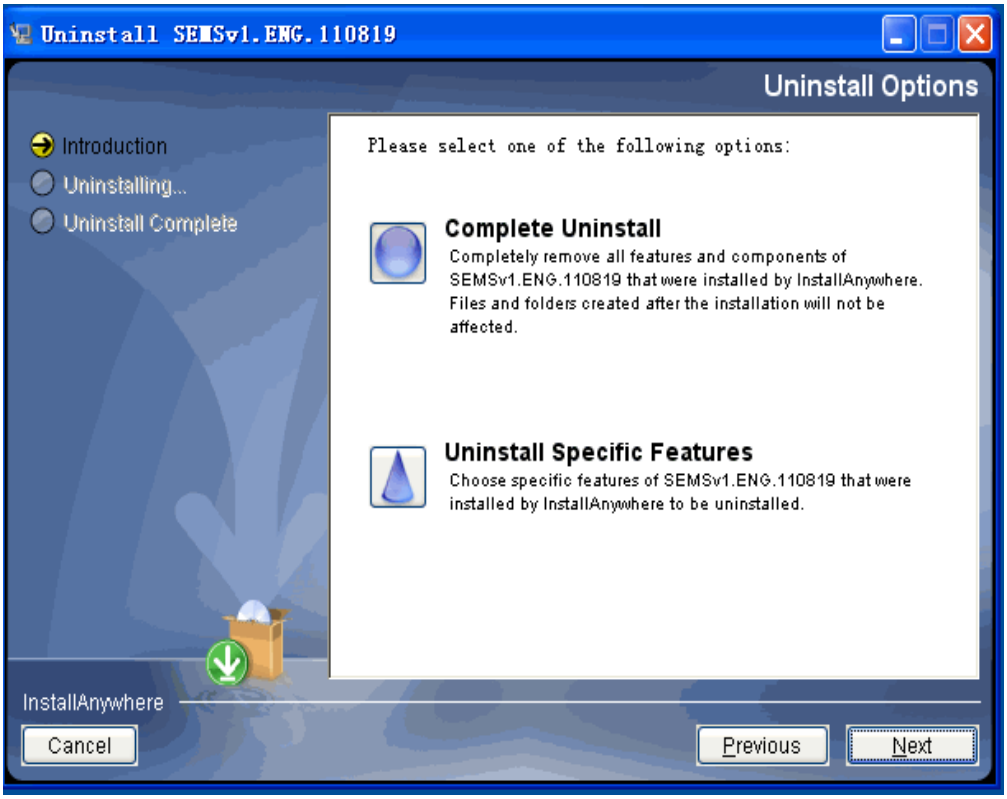

Uninstall SEMSv1.ENG.110819
Uninstall Options
Introduction
Uninstalling...
Uninstall Complete
Please select one of the following options:
Complete Uninstall
Completely remove all features and components of SEMSv1.ENG.110819 that were installed by InstallAnywhere. Files and folders created after the installation will not be affected.
Uninstall Specific Features
Choose specific features of SEMSv1.ENG.110819 that were installed by InstallAnywhere to be uninstalled.
InstallAnywhere
Cancel
Previous
Next

Fig 2-8 Uninstalling

There are two options: Complete uninstall and Uninstall specific features; and "Complete uninstall" is default options. Click "Next", will enter into "uninstall" process, as Fig 2-9.

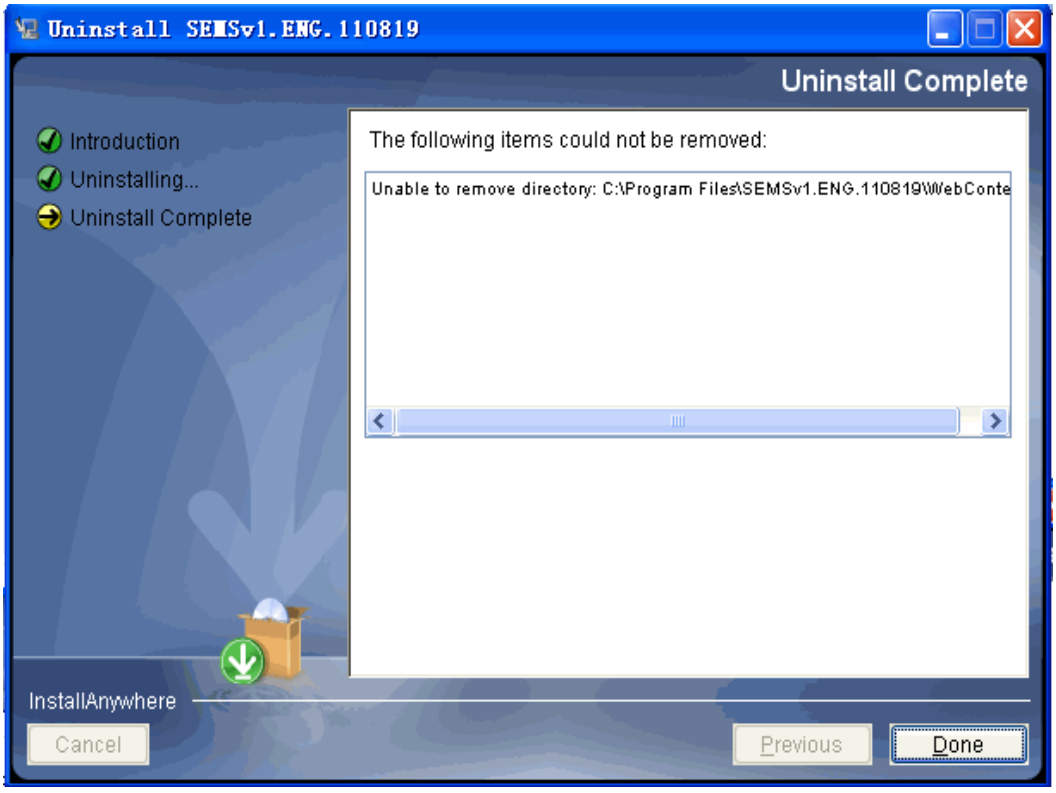


Fig 2-9 Software uninstalled

3. How to use the software

3.1 Functional description

3.1.1 User login

When you start the software , the following figure will appear. Fig 3-1.

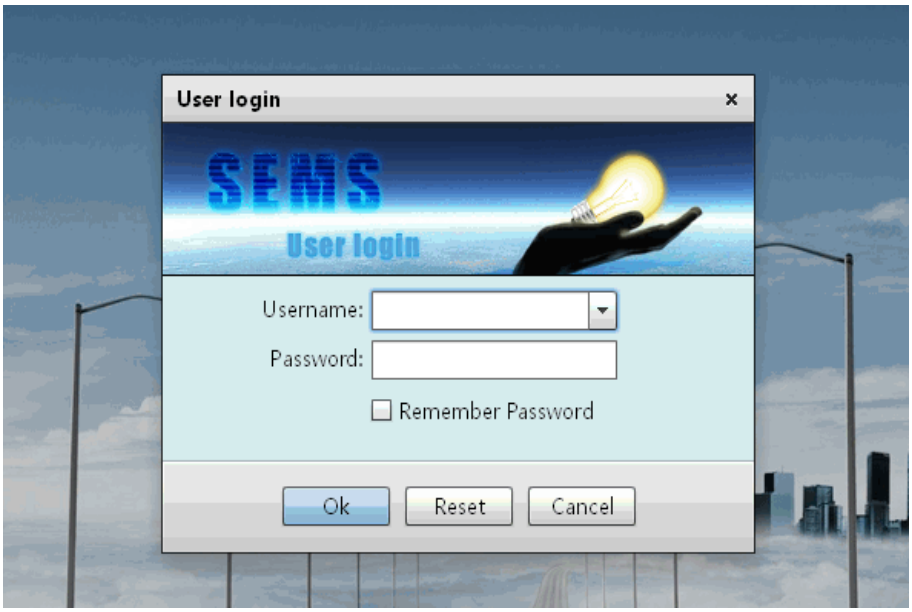


Fig 3-1 User login

3.1.2 Main interface

Input username and password, enter into the main interface. (If you are the first login person, you may need to wait about a minute for downloading flash files), the main interface as shown Fig 3-2.

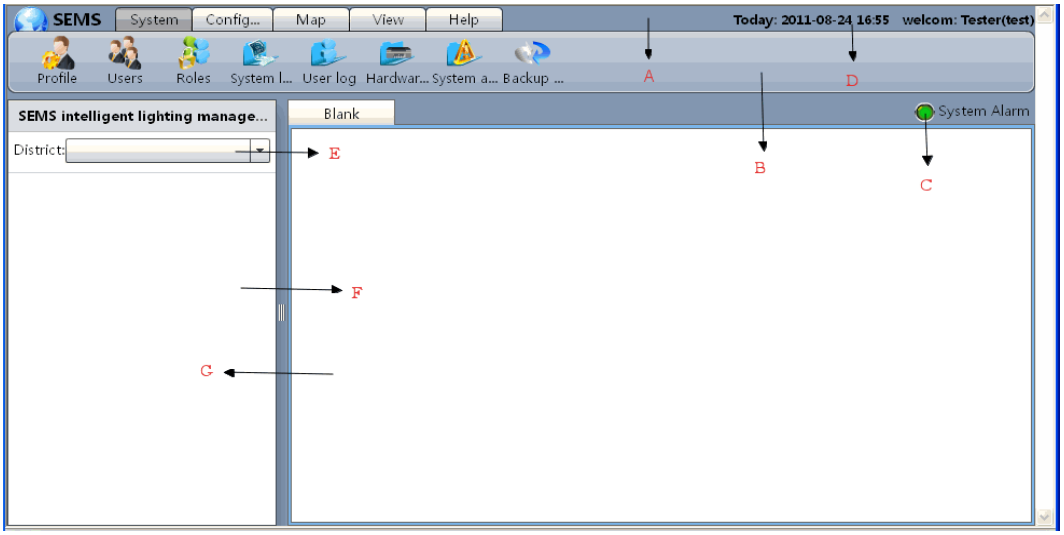


Fig 3-2 Main interface

A. **Menu column**: Provide a function list of system.

B. **Menu shortcut column**: Provide a submenu of current menu.

C. **System alarm column**: Display alarm information,

D. **Login information** : Display the current logged-on user information and time.

E. **District panel column**: Display the current district, also can switch to the next district by drop-down menu.

G. **System work area**: Display configuration of current selected district.

Different roles will have different main interface, as Fig 3-5, user name is tester, his role is administrator, and he has highest permission, so he can see all part of the system and change some settings.

3.1.3 Directory structure

The directory structure of SEMS as Fig 3-3.

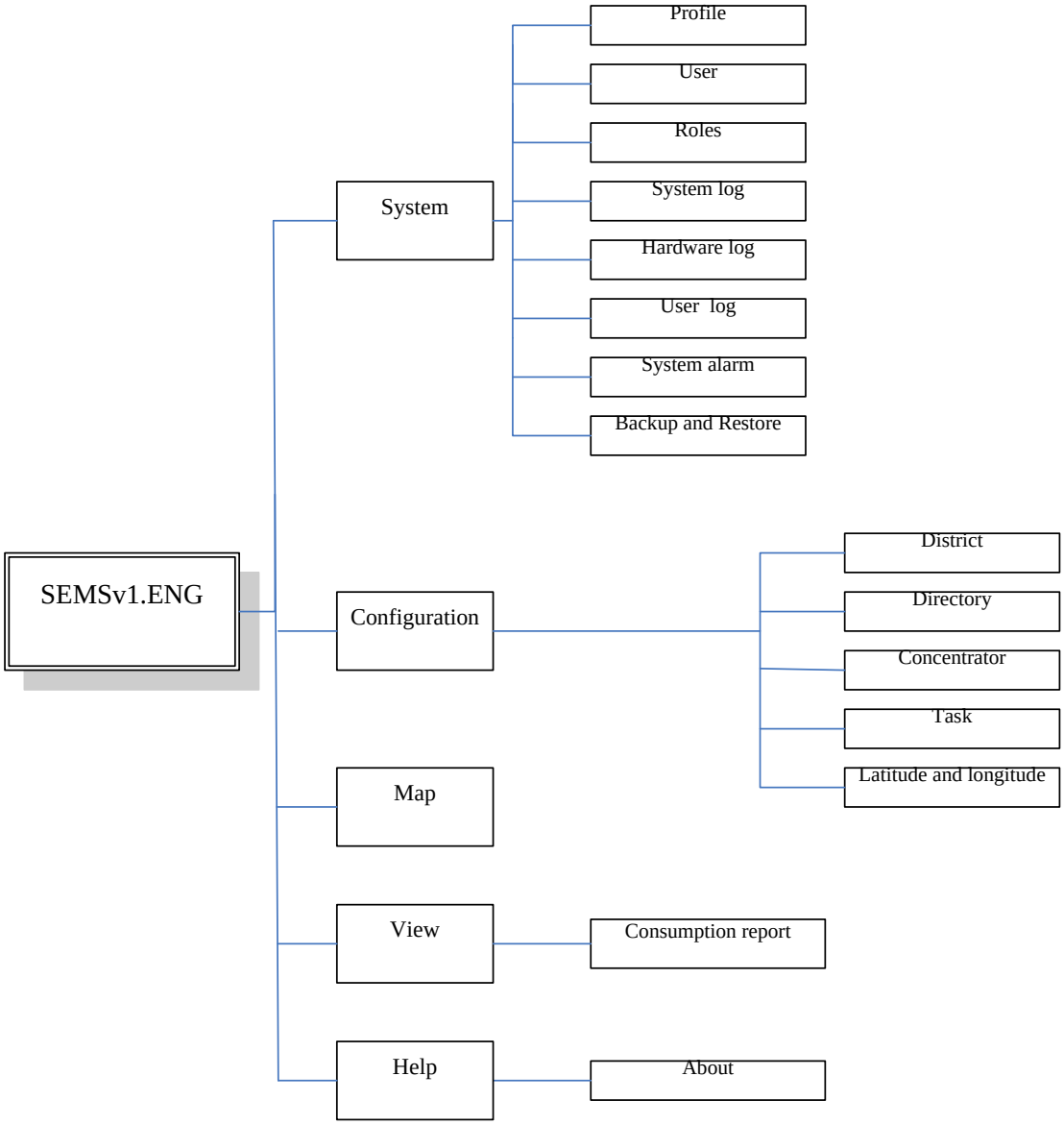


Fig 3-3 Directory structure

In the figure 3-3, System module is easy to understand. In Profile and User, you can add, edit and delete who can login the system. In the directory of role, user's role can be defined, different role has different limits of authority; our system has three different logs: system log, user log and hardware log; System log: record all logs of system, as error logs, processing log of server. User log: record all logs of user, as hardware log: record all logs of hardware, as respond message of concentrator, terminal and relay; in the directory of system alarm, which records the alarm information, it contains terminal exception, light off alarm and so on. Backup and restore, is user for backup import information of our system.

Configuration module is an import part of our system. The following is the some details:

1) District

District is used for managing the hardware and the terminal, and you should create a district first before you configure the other. In this part, you can add, edit and delete a district.

2) Directory

Directory is used for laying out the concentrator and terminals, if you want to add a concentrator or terminal, you should follow some roles. As Fig 3-4.

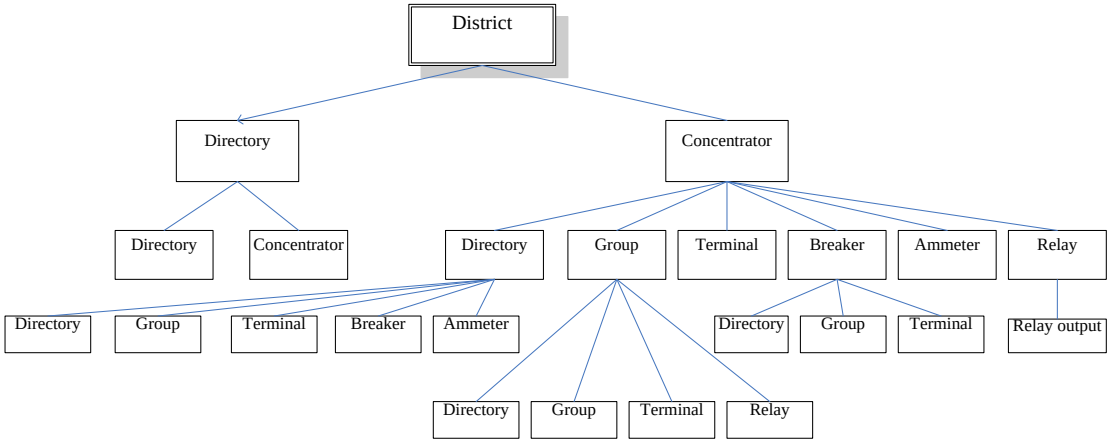


Fig 3-4 Directory role

Note: The layer of group should be less than or equal to three layers, if not, system will give a warning.

3) Concentrator

Concentrator is a key part of SEMS. And the main interface as Fig3-5, there are four modules in this part, the following is some details.

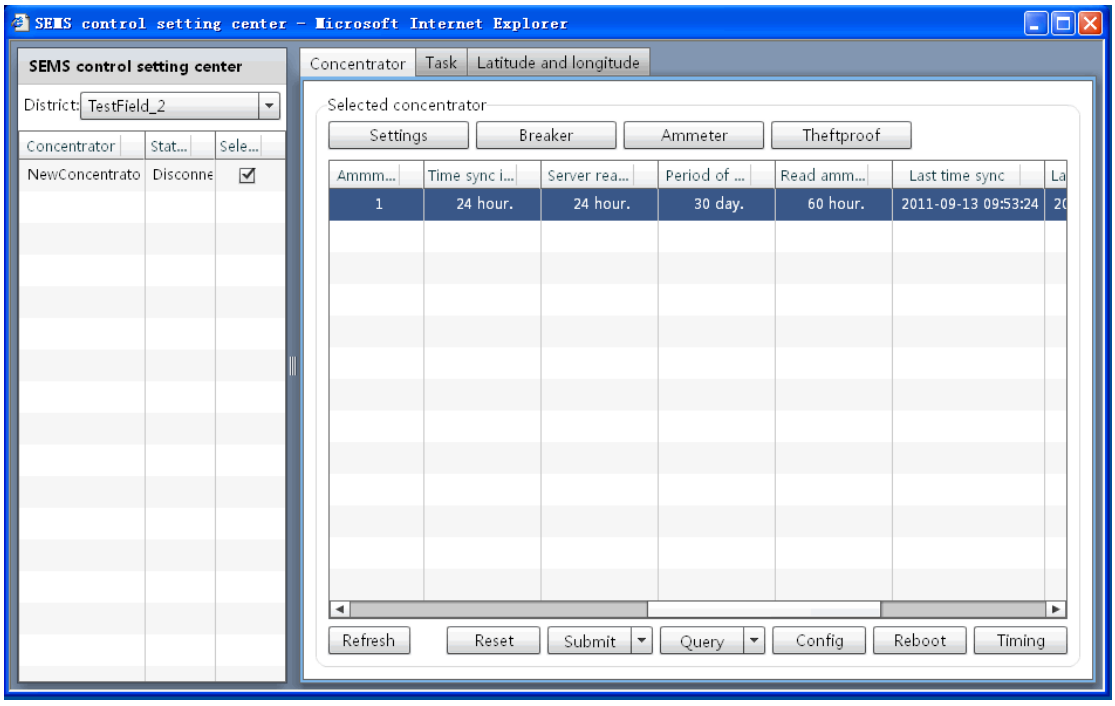


Fig 3-5 Concentrator

First, you should create a concentrator in 2),as Fig 3-6. You can give your concentrator a name and description, UID is the identify of the concentrator, you can get it from your concentrator device. Server domain/IP is the domain of your sever. 8484 is default server port, there are three port mode which you can choose: Ethernet, GPRS, GPRS/SMS.APN's default module is CMNET, Daytime is the light-off time domain, you can change it by yourself.

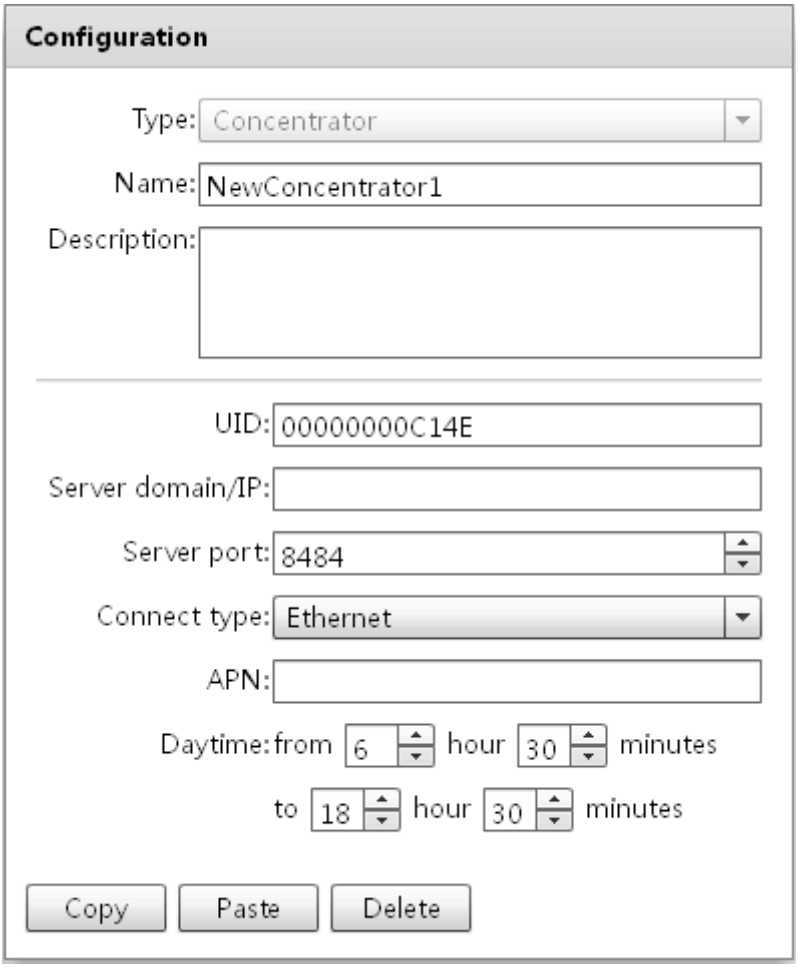


Fig 3-6 Create a concentrator

✧ Settings

Click "settings", dialog as Fig3-7.

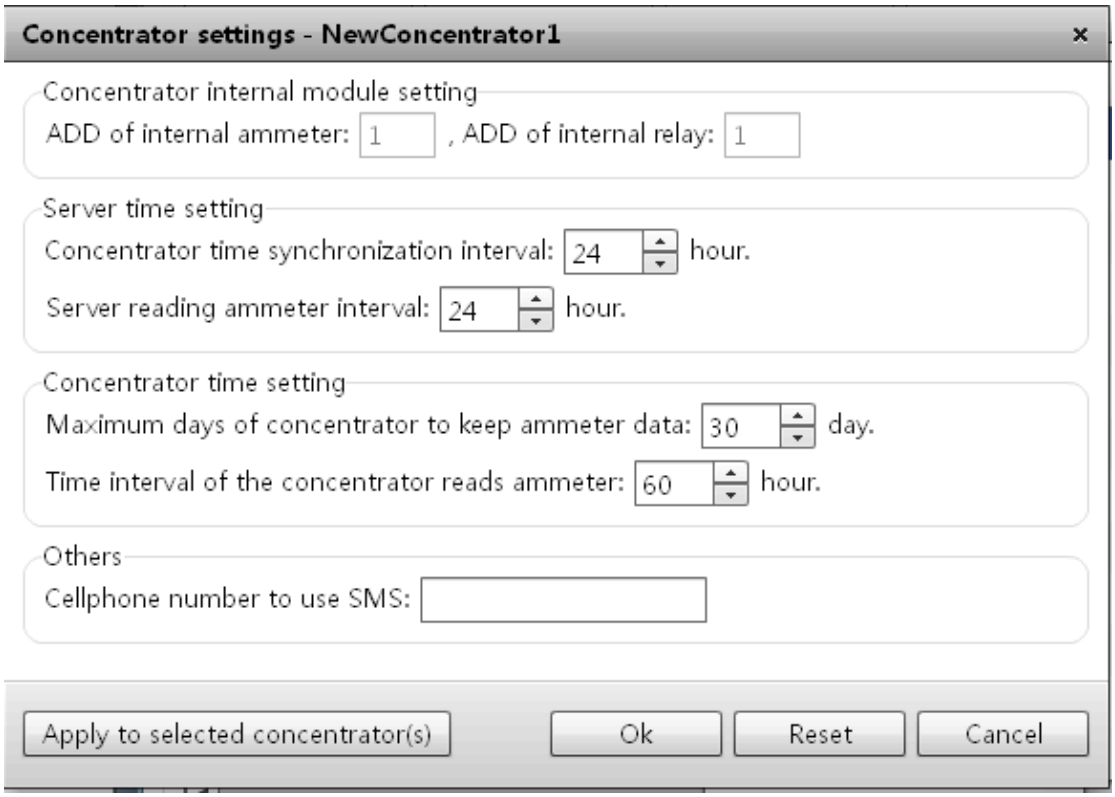

Concentrator settings - NewConcentrator1
Concentrator internal module setting
ADD of internal ammeter: 1 , ADD of internal relay: 1
Server time setting
Concentrator time synchronization interval: 24 hour.
Server reading ammeter interval: 24 hour.
Concentrator time setting
Maximum days of concentrator to keep ammeter data: 30 day.
Time interval of the concentrator reads ammeter: 60 hour.
Others
Cellphone number to use SMS:
Apply to selected concentrator(s)
Ok
Reset
Cancel

Fig 3-7 Concentrator settings

"Concentrator internal module setting", shows the hardware address of ammeter and internal relay, but modification is not allowed here; In "Server time setting", the timing interval of concentrator and the interval of reading server can be set here; "Concentrator time setting" is about maximum of concentrator to keep ammeter data and interval of concentrator reading ammeter; In others, in this field, you can input your cellphone number, which can control terminal and receive message from concentrator ,but the number is not the SIM's number in the concentrator, in order to make the SMS controlling work, you should make the concentrator work under GPRS/SMS module.

✧ Breaker

Click the "Breaker" button, Dialog as Fig 3-8 will appear. In this field, you can control the breaker on or off, but dimming can't be operated here. Click "Modify" in the right, you can set the control mode, and in "config" text box, will show the detail of control setting. When all the configuration are completed, click the "Apply to selected concentrator(s)".

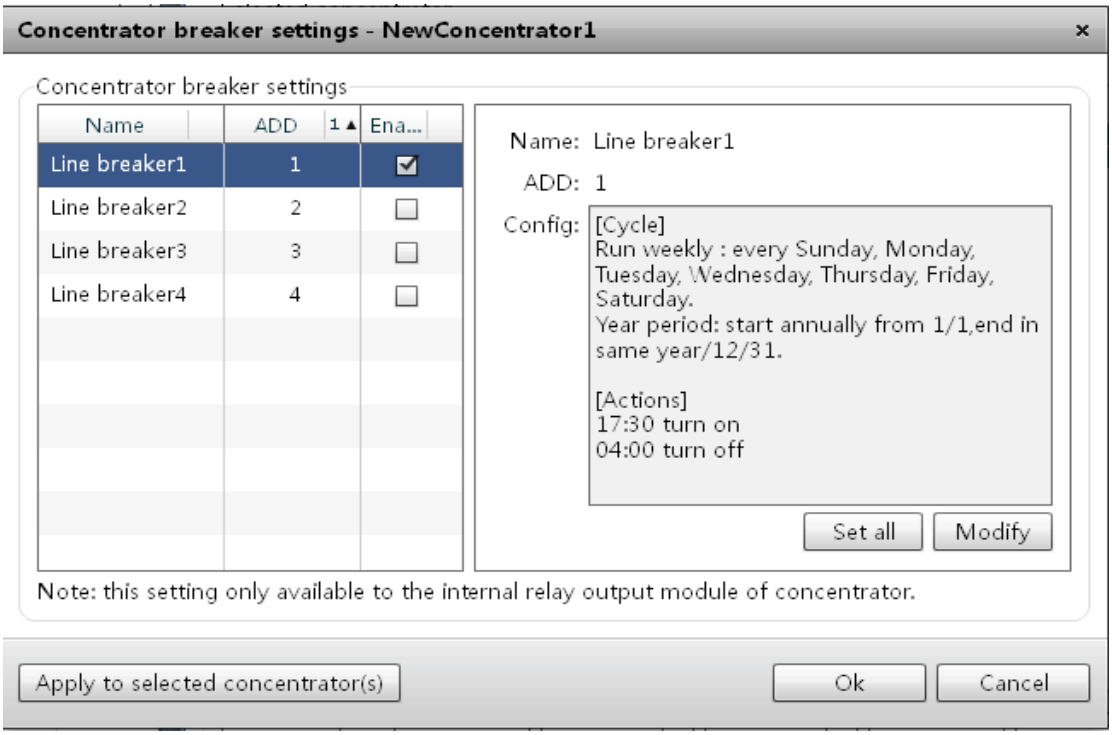


Fig 3-8 Breaker settings

✧ Ammeter

In this window, you can set the some parameter of ammeter. As Fig 3-9

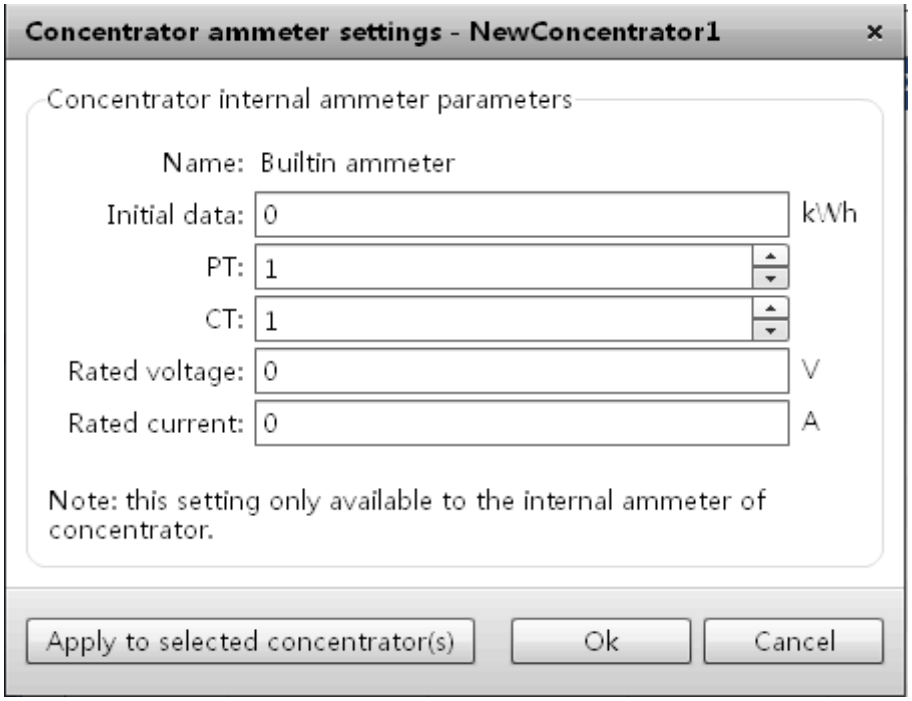


Fig3-9 Ammeter settings

✧ Theftproof

"Theftproof" is a line of anti-theft, and concentrator will automatically detect this line whether there is stolen. If the terminal is stolen, the concentrator will throw a

theftproof alarm or give the user a short message. The theftproof module are generally hanged on the end of line. The follow is some settings, before the settings you should need a theftproof hardware and add the theftproof terminal in the “Directory”, and the program of concentrator also should support.

First, click the button “Theftproof”, input the line name and under concentrator. As Fig 3-10.

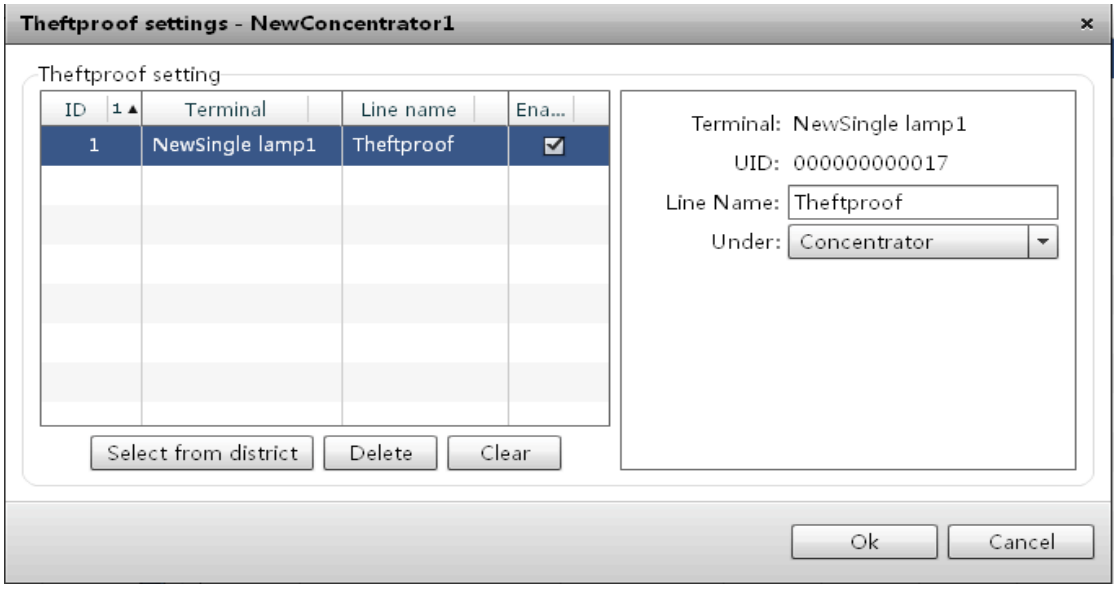


Fig 3-10 Theftproof settings

Secondly, click “Select from district” button, select the theftproof terminal. As Fig 3-11 , in the figure, the “NewSingle lamp1” is our theftproof terminal.

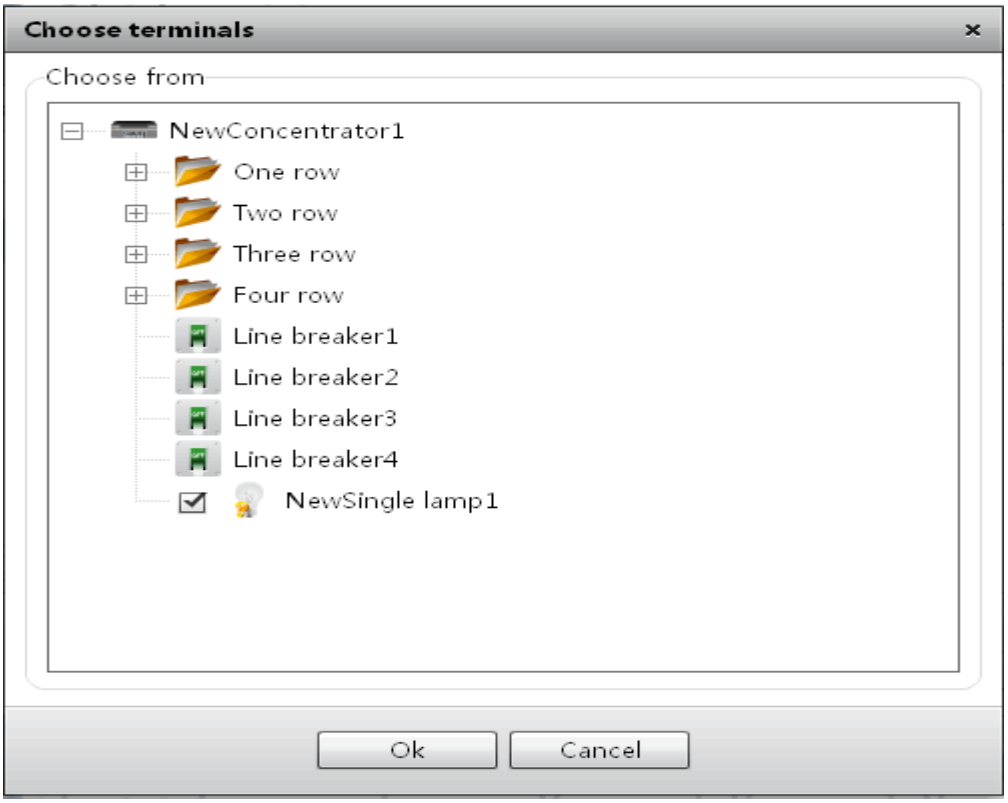


Fig 3-11 Choose theftproof terminal

Finally, you should submit theftproof settings, as Fig 3-12. When it's successful, then click "Config", configure the concentrator. When the terminal on this line was stolen, concentrator will throw a theftproof alarm, and you will get the detail information from upper computer.

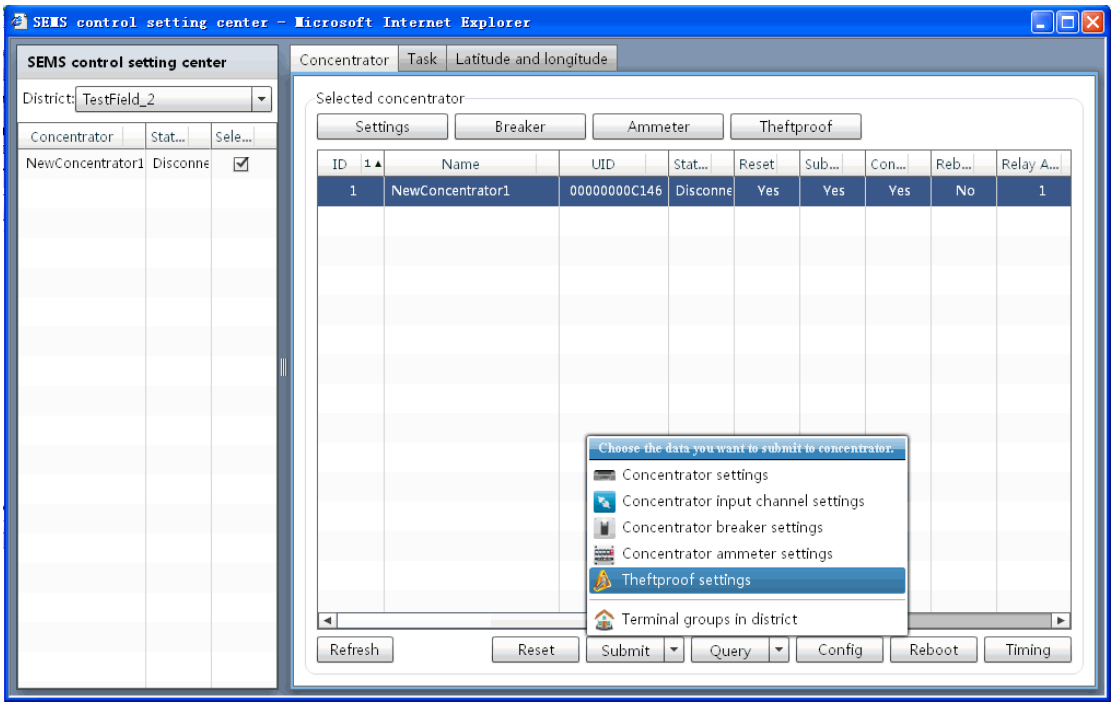


Fig 3-12 Submit theftproof settings

4) Task is a complete event, task will be submitted to concentrator, and tell concentrator, which control terminal to do something, such as turning on/off, dimming, etc. In 3.2.2, we will give a description of task.

5) In the "Map" directory: this part will be renewed in latter version.

6) In the "View" directory, a consumption report will be given. It's convenient to query the consumption power, as Fig 3-13. In the left, the above column shows the basic ammeter's information, and it contains district, concentrator and ammeter. The below is the total power statics. In the right, the above is detail of ammeter which have selected, and you will get graphical view of data in the below.

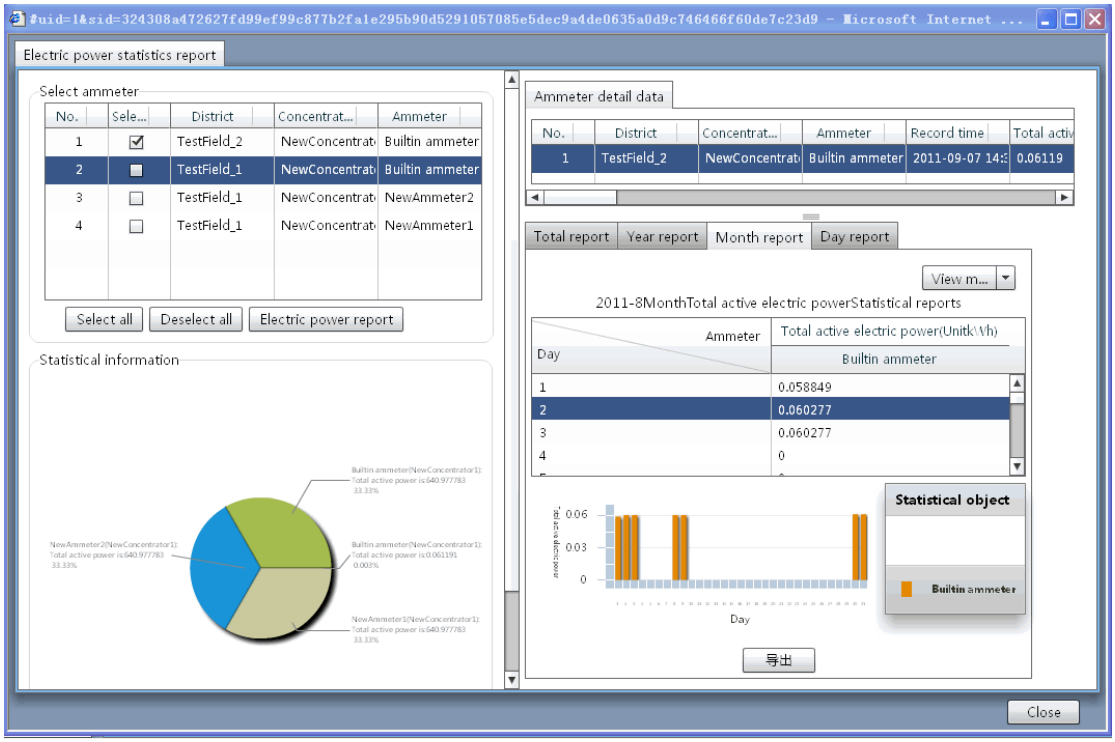


Fig 3-13 Consumption report

In the “Help” module, we will give the version of the system, also you can contact us.

3.2 Use guide

3.2.1 General flow

The following is a simple sample of usage

1st step: Create a “TestDis_1”, at “Configuration”->”District”, as Fig 3-14.

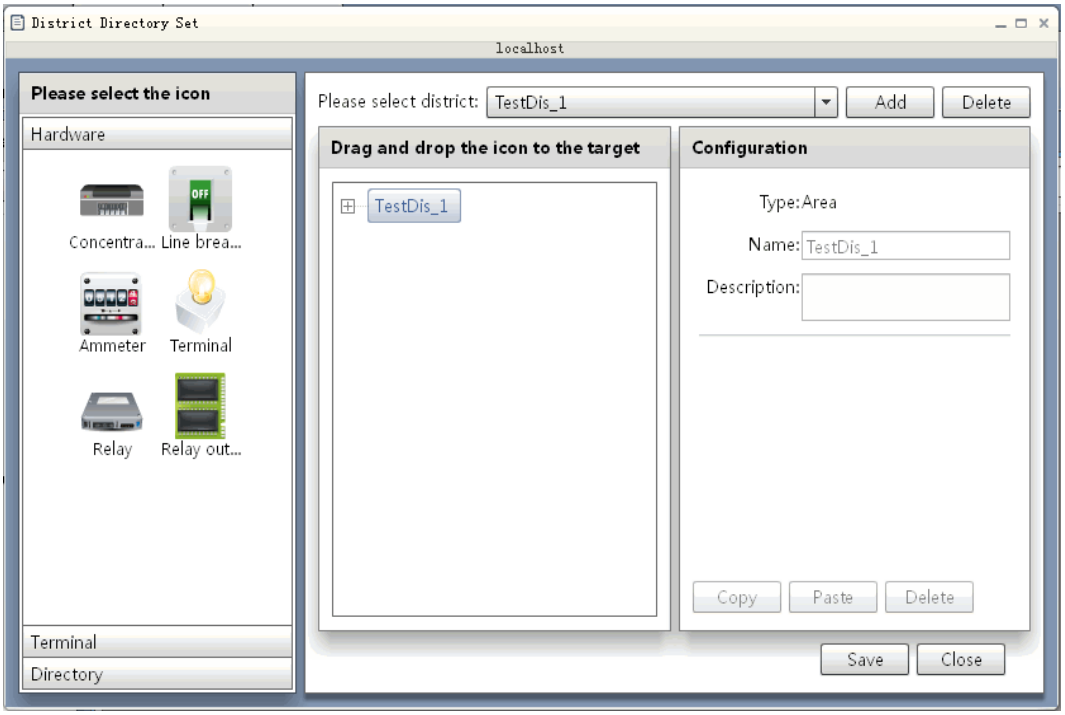


Fig 3-14 Create district

2ed step: In the directory of "TestDis_1", add a "Concentrator". You can drag the "Concentrator" icon from hardware in the left, there will be a concentrator, four line breakers and an ammeter in the directory of "TestDis_1", in order to make the concentrator work, "UID" must have. As Fig 3-15.

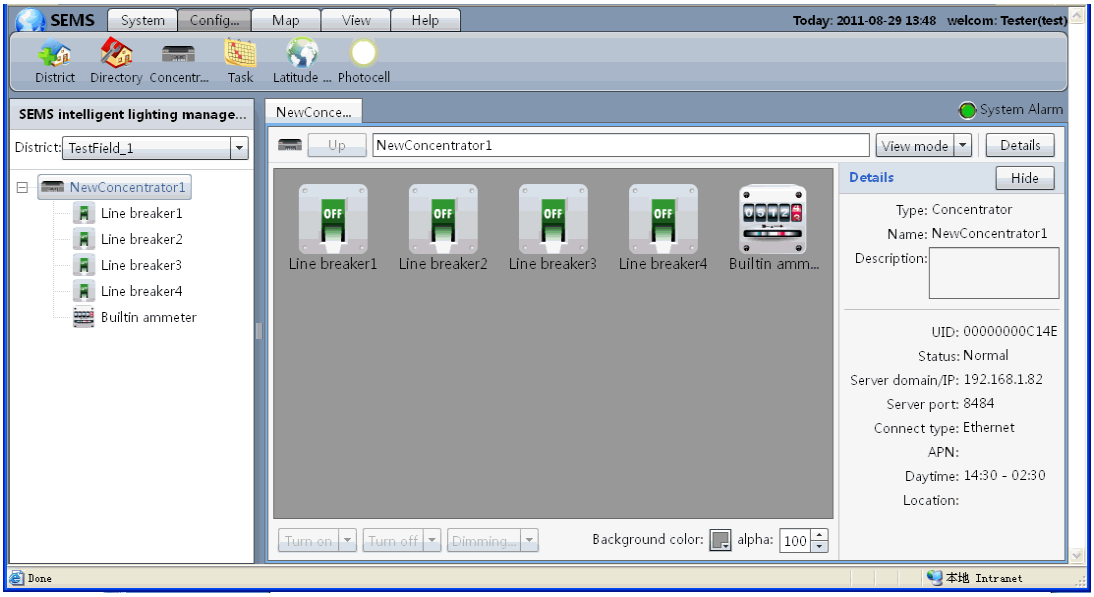


Fig 3-15 Create concentrator

3rd step: Below the concentrator we can add terminals and directory. As signal lamp, dimming lamp, double lamp, double dimming lamp and add directory, as directory, single lamp group, double lamp group, multi-lamp group, ammeter, etc. as Fig 3-16.

Note *: The following steps can work normally , the concentrator and upper computer must connect to each other.*

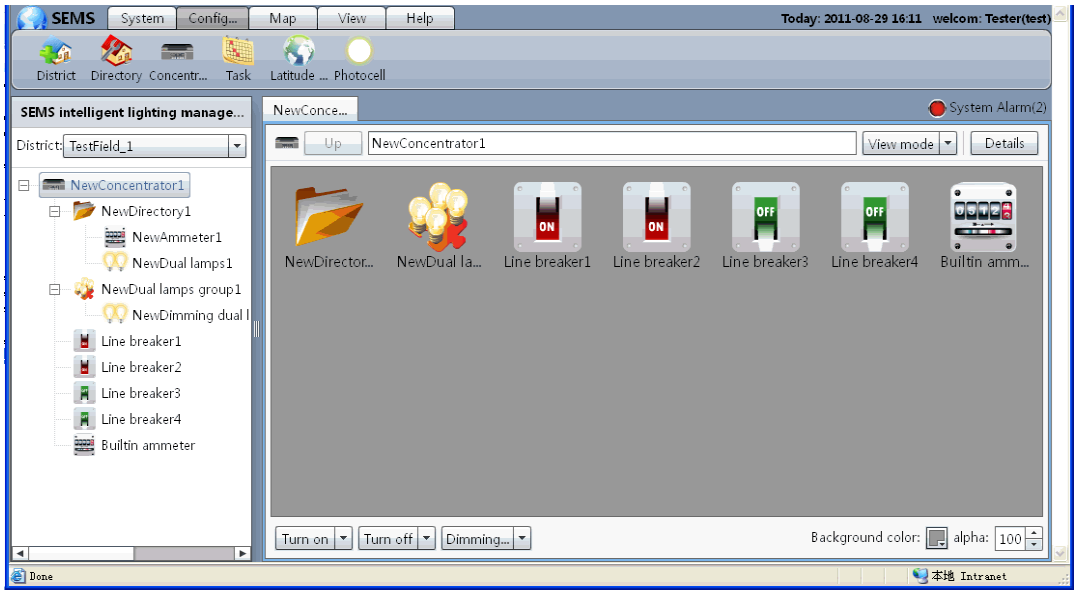


Fig 3-16 Add lamps

4th step: Submit node data to concentrator. It contains “Concentrator settings”, “Concentrator breaker settings”, “Concentrator ammeter settings”“Terminal groups in district”. At last, click the “config” button, and configure the concentrator to make sure the configuration work. As Fig 3-17, if you have lots of devices to add, you will need to wait a few minutes.

Note*: If you are the first time to submit data to concentrator, it’s no need to reset the concentrator, if not, you have to reset the concentrator firstly. ”Reset” means: The concentrator clear the historical data of breaker task information, terminal group information and terminal task information.*

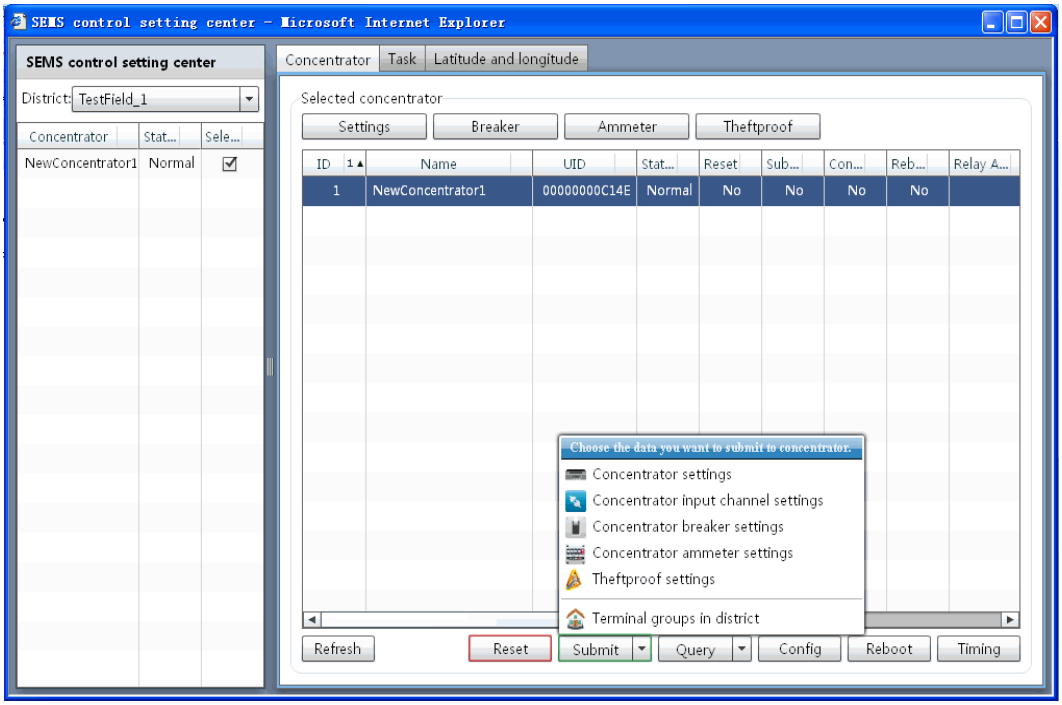


Fig 3-17 Submit data to concentrator

5th step: In this step, we can make some orders, for example, "turn on/off" lamps and line breaker Fig 3-18,Fig 3-19.

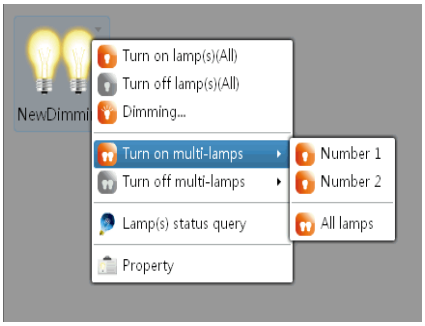


Fig 3-18 Turn on lamps

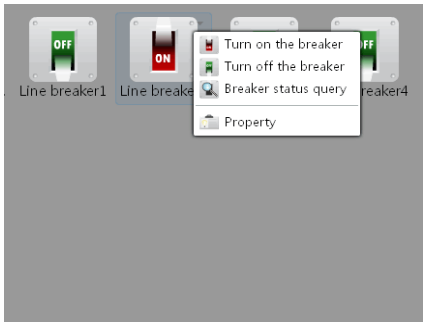


Fig 3-19 Turn on line breaker

"dimming" Fig3-20

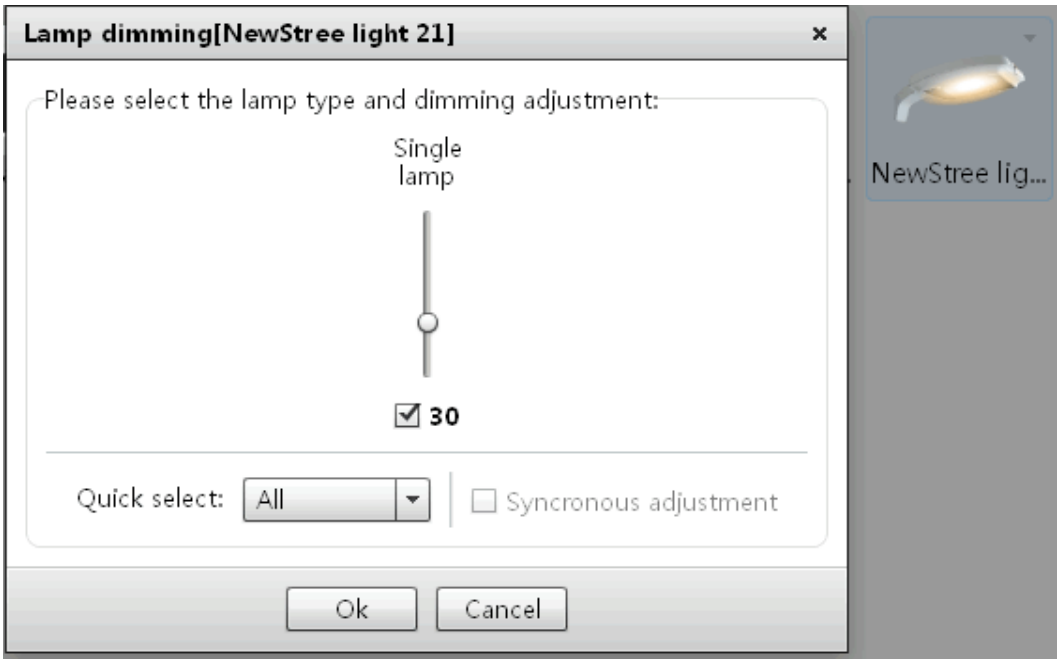


Fig 3-20 Dimming

query the ammeter, Fig 3-21 and so on;

***Note** : The date of ammeter is the recent record, if you want to get the real-time data , you should query the ammeter once more.*

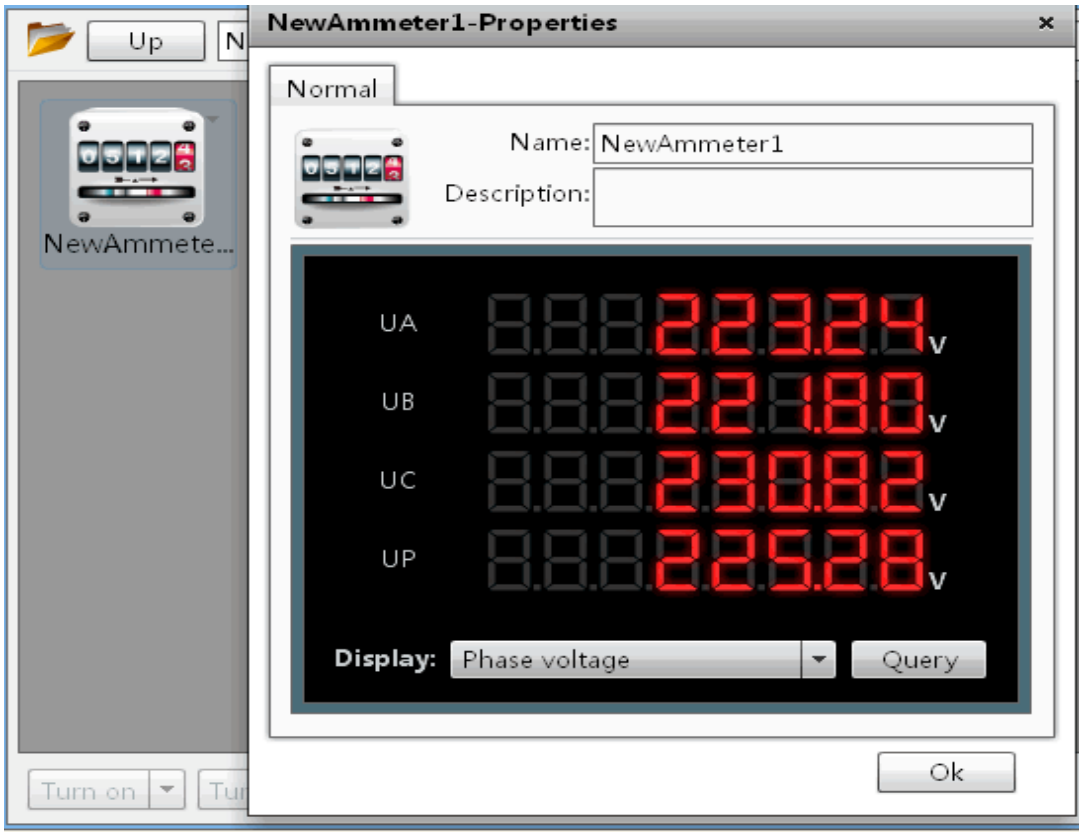


Fig 3-21 Query the ammeter

The following we can submit some tasks, task setting is very import, so a detail description will be given in 3.2.2.

3.2.2 Task configuration

Task configuration means setting task in the system. Once tasks are set successfully, the following task will be executed on setting time. The following is some steps:

1) In Configuration->Task->Add from template, and click the “add” button, “Add task” dialog will appear Fig 3-22, in this dialog, you can input the name, the lamp start/end time and some description of the task.

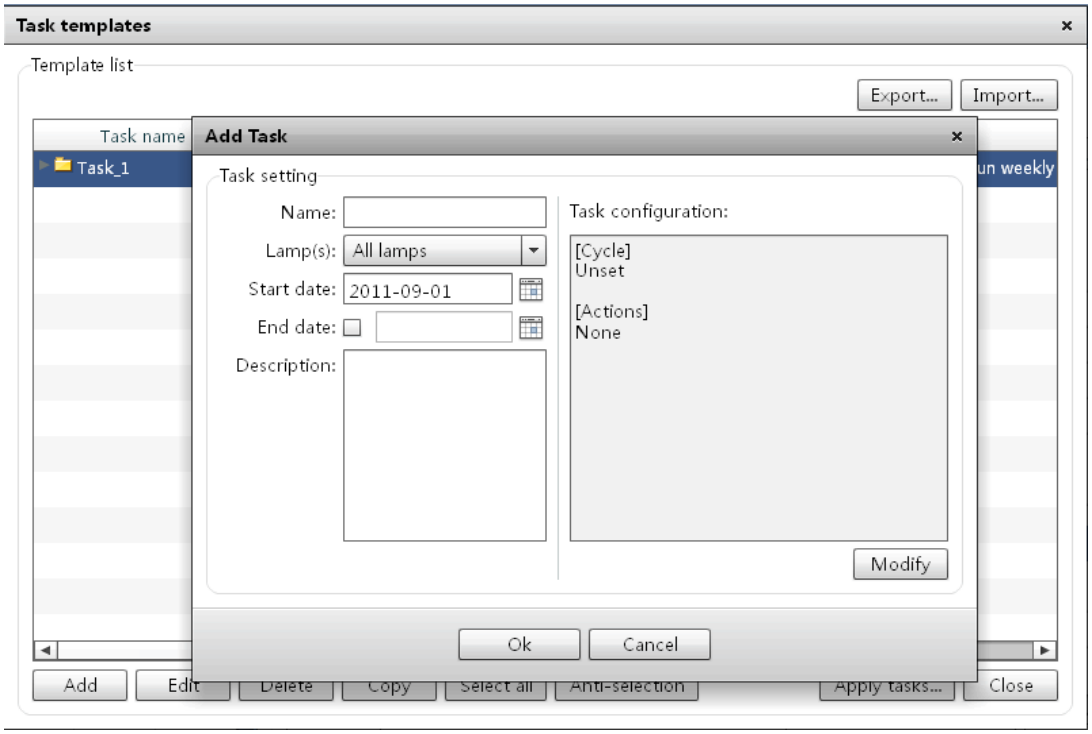


Fig 3-22 Add task

Then click “Modify” button, you can setting some parameters in “Task configuration timer”Fig3-23. In this dialog, turn on/off mode settings has different modes: timer, photocell, latitude and longitude, and there combination. Here we have two control modes: Timer and Latitude and longitude, the other will be added due to your need.

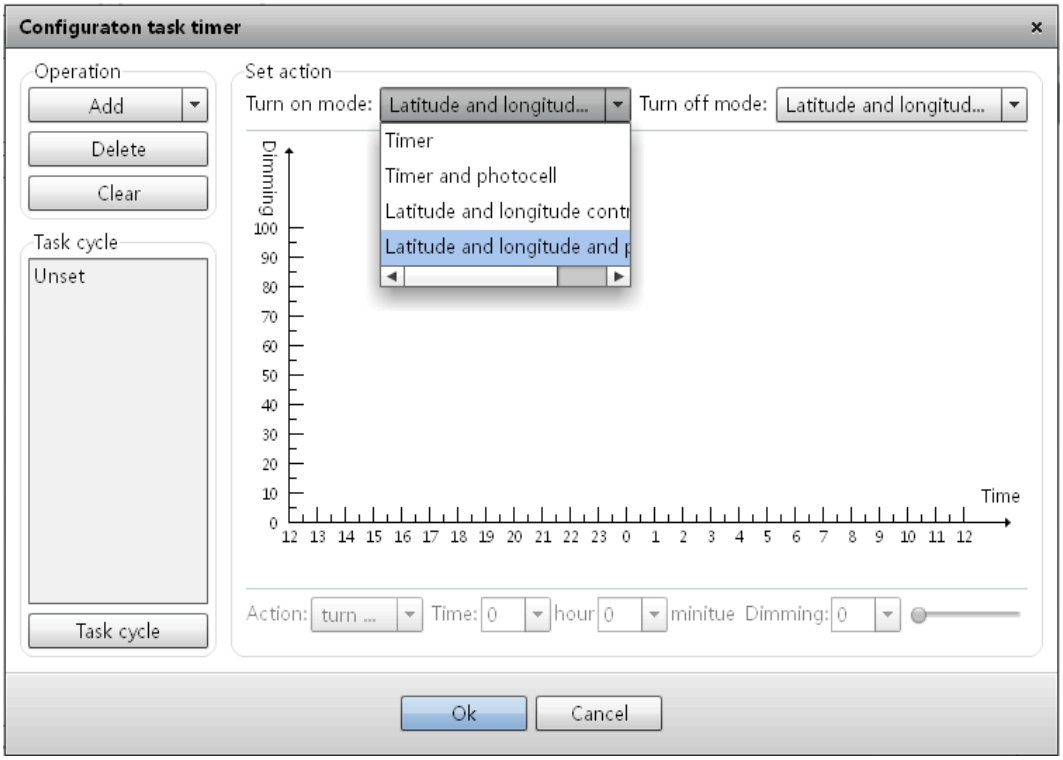


Fig 3-23 Configuration task timer

2) Add a timer task; Four operations we can add in the timer, drag the special icon to change the time of task and the brightness of lamps. Then click “OK” finished Fig 3-24

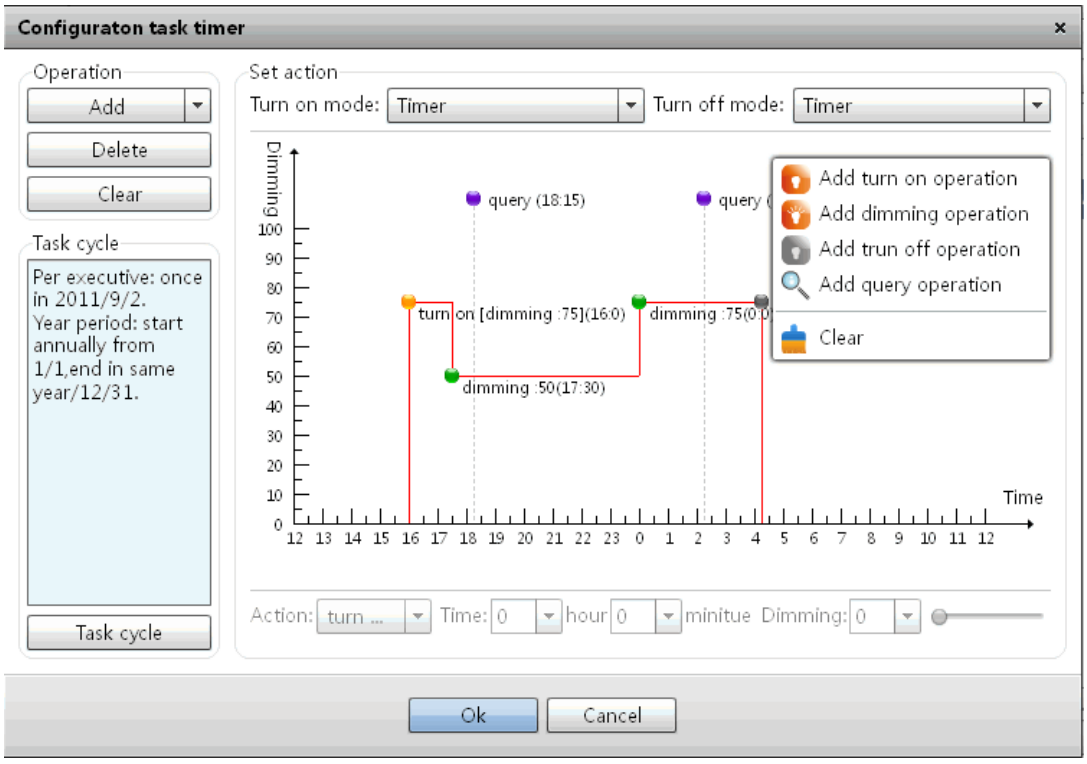


Fig 3-24 Add timer task

3） Apply the task to lamps, in directory of task, click “add from template”, select the timer task, then click “apply task to the concentrator”, select the lamps or directory you want to apply. Click “OK” finished, Fig 3-25.

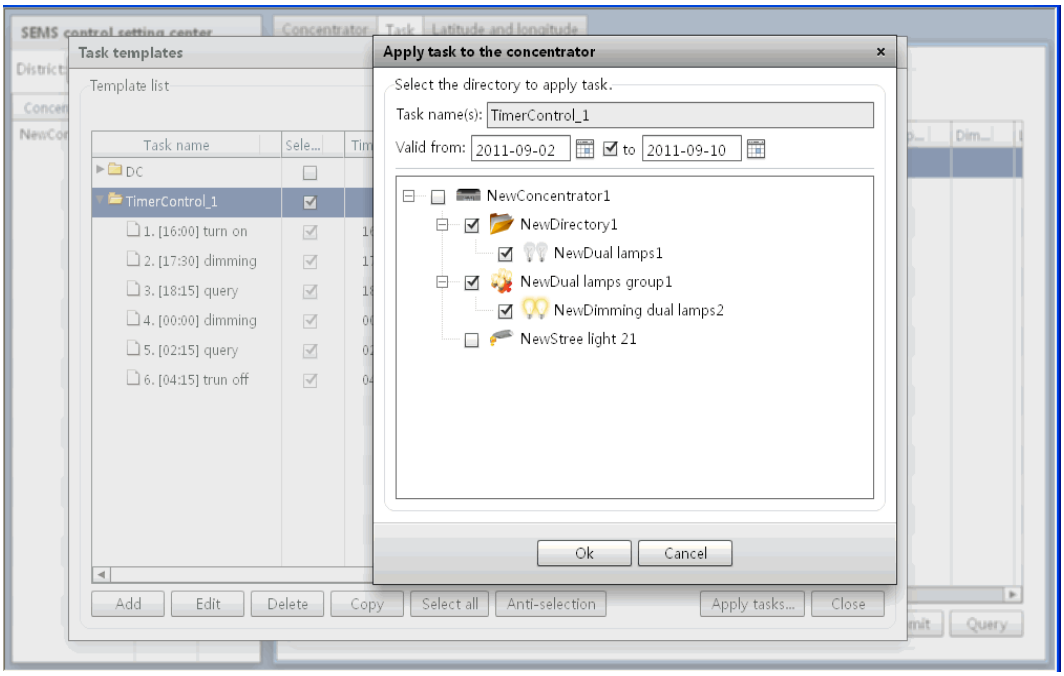


Fig 3-25 Apply task to lamps

4）Submit task to concentrator. In directory of task, select the current task, and then click “Submit”, and wait submitting finished. Also you can click “Query” to see the task which you have submitted.Fig3-26.

Note: Before you submit new task, you must click “clear” to clean historical task. To make sure the new task execute normally.

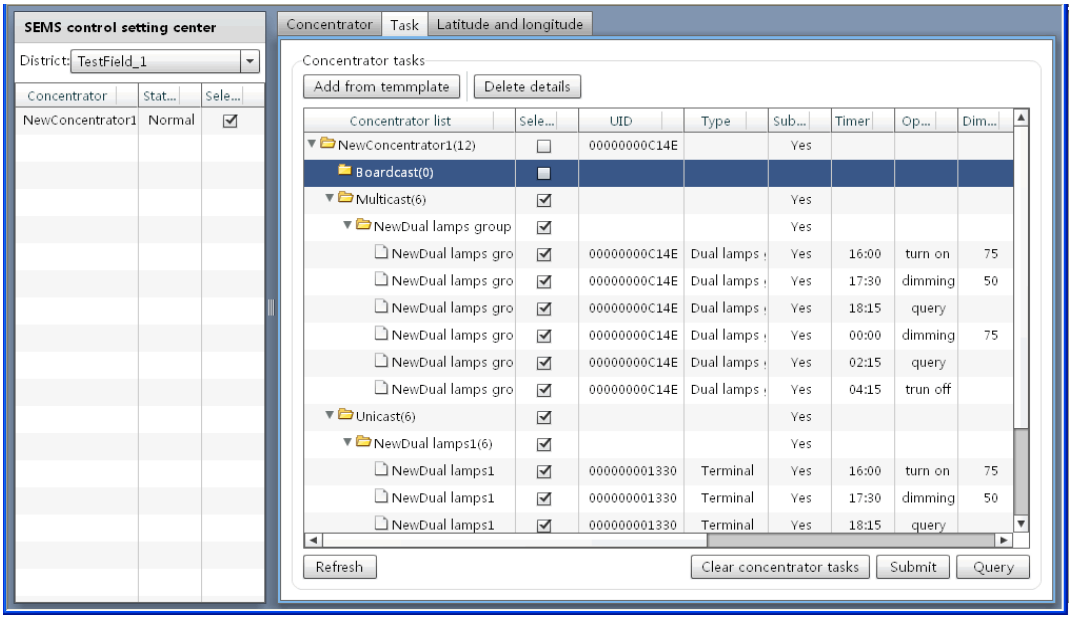


Fig 3-26 Submit task

4.FAQ

Question 1: UID of concentrator is sensitive to capital letter and lowercase letter?

Answer: No, for example, UID: 15bc is as same as 15BC.and system will automatic convert it into capital letter.

Question2: When the concentrator was configured finished, concentrator and terminal can be controlled successfully, but the line breaker under the concentrator can not show their true status?

Answer: Concentrator can be controlled, it proves the bottom communication is normal, and the line breaker can't show status normally, different concentrator may have the same UID, please check the UID of the concentrators.

Question3: There are some timer tasks which were submitted to the concentrator, but the tasks aren't executed?

Answer: Firstly, you should check the time of the task which you submit, if it's not out of date. Secondly check the parameter of concentrator and task, if they are submitted or not, if not, submit them. At last, submit terminal group in district, if you do all the above, and the time task may be successful.

Question 4: Submit latitude and longitude, and then set latitude and longitude mode ,but breakers don't work as setting?

Answer: To resolve this problem, after you complete the latitude and longitude setting, don't forget to reboot the concentrator.